



PROCEEDINGS
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DAECTOR SCHMITTI, A NEW SPECIES OF
VENOMOUS TOADFISH FROM THE PACIFIC
COAST OF CENTRAL AMERICA

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In my recent review (Collette, 1966) of the venomous toadfishes (Batrachoididae, Thalassophryinae), I tentatively referred to a specimen from Costa Rica as a variant of *Daector reticulata* (Günther) although I believed that it might represent an undescribed species. I did not describe it because I had only the single specimen, which closely resembled *D. reticulata* in color pattern. A second, larger, specimen, from Panama has come to my attention and I am now convinced that these two fish represent an undescribed species. I take great pleasure in naming the new species in honor of the energetic collector of the holotype—Dr. Waldo L. Schmitt.

Daector schmitti new species
(Fig. 1)

Diagnosis: A species of *Daector* most similar to *D. reticulata* but differing in having fewer second dorsal rays (22 vs. 25-27); anal rays (21 vs. 24-26); and caudal vertebrae (23 vs. 26-28). The filaments on the head of *D. schmitti* extend farther laterally than in *D. reticulata*—beyond the infraorbital lateral line canal, instead of to the canal. *D. schmitti* has a color pattern similar to that of the smaller sizes (80 mm) of *D. reticulata* but loses the reticulations and develops a spotted pattern reminiscent of the Atlantic species *Thalassophryne maculosa* Günther at larger sizes (130 mm). Precaudal vertebrae 8. Pectoral fin glands 6.

Comparisons: *D. schmitti* has a much more extensive distribution of filaments on the head and anterior part of the body than does *D. reticulata* although the filaments are larger in *D. reticulata* (Fig. 2). Filaments cover a greater area in larger specimens of both species. They extend farther laterally in *D. schmitti*—below the infraorbital canal on

TABLE 1.—Morphometric comparison of *Daector schmitti* with *D. reticulata* (in percentage of standard length).

	<i>D. reticulata</i>		<i>D. schmitti</i>		<i>D. reticulata</i>		
	USNM 81697	SU 22287	SU 14949	USNM 144869	SU 22287	USNM 81698	SU 22287
Standard length (mm)	52.7	53.8	80.1	130	167	185	193
Head length	31.3	32.0	36.0	36.8	30.5	29.8	32.0
Head width	28.8	30.1	34.5	38.1	32.2	29.4	30.1
Interorbital distance	4.7	4.3	7.1	7.7	6.9	6.1	6.0
Snout-1 dorsal	29.2	26.2	29.0	34.1	28.2	26.6	29.7
Snout-2 dorsal	39.3	37.7	43.9	46.4	44.6	40.9	44.2
2nd dorsal base	55.6	56.1	52.4	56.5	52.4	60.5	57.5
Snout-anal	42.5	42.0	49.9	53.1	45.6	46.4	45.0
Anal base	55.6	56.9	53.7	56.7	54.3	58.1	54.9
Snout-pectoral	30.6	29.9	36.7	37.1	30.7	31.1	31.5
Pectoral length	27.5	29.7	27.2	29.1	25.0	24.2	25.2
Snout-pelvic	18.8	19.7	22.1	23.5	19.5	19.6	19.5
Pelvic length	18.0	17.1	20.0	18.9	17.5	16.2	16.6

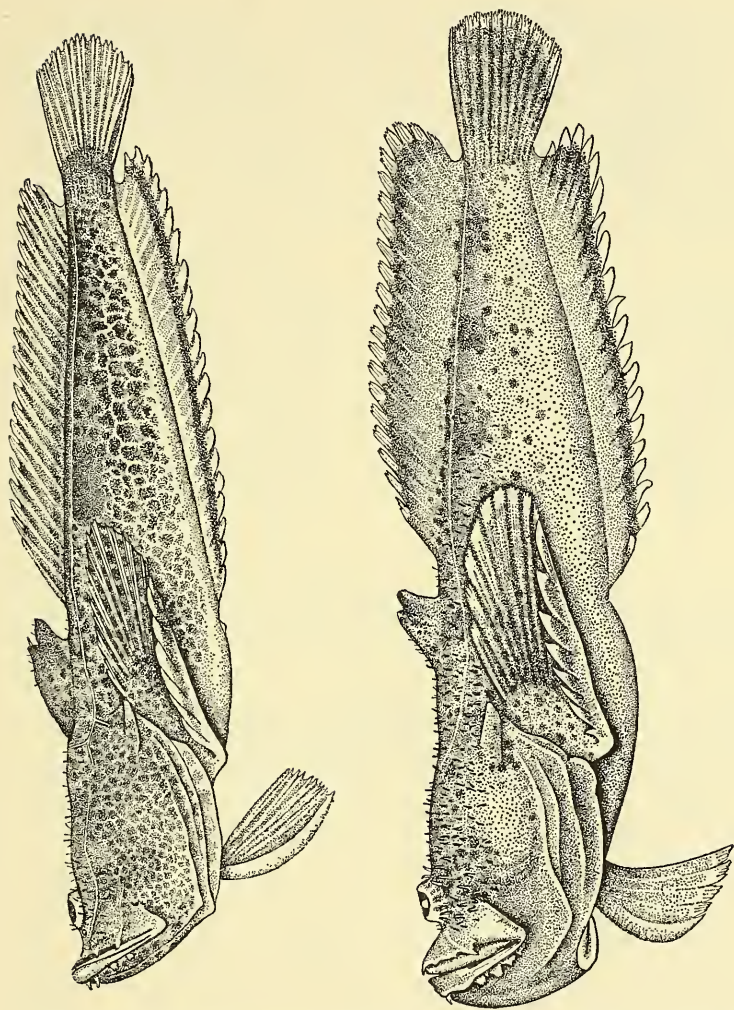


FIG. 1. *Daector schmitti*. Left, SU 14949, paratype, 80.1 mm SL, Golfo de Nicoya, Costa Rica. Right, USNM 144869, holotype, 130 mm SL, Secas Islands, Panama.

the head, and below the lateral line on the body in the region of the second dorsal fin origin. In *D. schmitti*, the filaments cover much of the membrane over the dorsal spines and extend posteriorly as far as the eighth ray in the second dorsal fin. In eight large (185–252 mm SL)

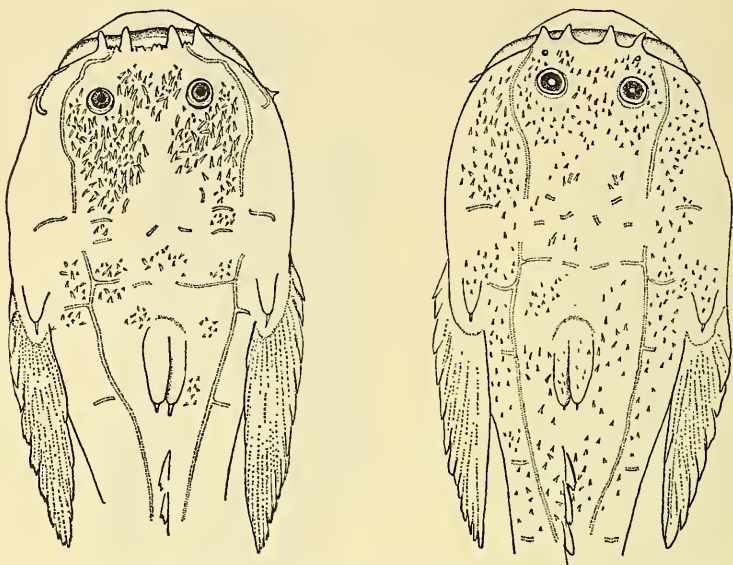


FIG. 2. Dorsal view of heads of *Daector reticulata* (left, USNM 81698) and *D. schmitti* (right, USNM 144869) showing distribution of filaments.

specimens of *D. reticulata*, the filaments extend posteriorly no farther than the second or third ray in the second dorsal fin.

D. schmitti agrees with both *D. reticulata* and *D. gerringi* (Rendahl) in having one fewer ray in the second dorsal fin than the number of caudal vertebrae. *D. dowi* (Jordan and Gilbert) has the same number of second dorsal fin rays as caudal vertebrae.

Morphometrically, *D. schmitti* has a longer, wider head, greater interorbital distance, longer pelvic fins, and greater snout-pectoral and snout-pelvic distance than does *D. reticulata* (Table 1).

Types: Holotype—U. S. Nat. Mus. 144869, 130 mm standard length; Panama, Secas Islands, from channels in coral tidal flat; 6 February 1935; VELERO 434-35. Paratype—Stanford Univ. 14949, 80.4 mm; Costa Rica, Golfo de Nicoya, Negritos Island, tidepools; 13 February 1947; M. B. Schaefer.

Discussion: The low number of caudal vertebrae and anal and second dorsal rays tend to bridge the gap between *Daector* which has high counts and *Thalassophryne* which has low counts. *D. schmitti*, however, agrees with *D. reticulata*, *D. gerringi*, and *D. dowi* in the three diagnostic characters of the genus: possession of discrete pectoral fin glands (see Fig. 1 in Collette, 1966), 8 precaudal vertebrae instead of 7, and a submarginal stripe in either the second dorsal or anal fin or both.

Dr. William A. Bussing, University of Costa Rica, has informed me that he has not found any toadfishes in the many tidal pool and inshore rotenone collections made between Bahía Culebra and Punta Mala. He suggests that *D. schmitti* may be restricted to island shores.

Acknowledgments: I am grateful to Mr. Robert E. Trist, Division of Fishes, U. S. National Museum, for calling the holotype to my attention and to Dr. Warren C. Freihofer, Stanford University, for lending me the paratype of *D. schmitti*. The figures were drawn by Mrs. Mildred H. Carrington. Drs. Daniel M. Cohen and Victor G. Springer have commented on the manuscript.

Addendum: After this manuscript was sent to the printer, Mr. Robert J. Lavenberg of the Los Angeles County Museum discovered a third specimen of *D. schmitti*: LACM 22360, 20.0 mm SL; Costa Rica, Port Culebra, off South Viradore Islands, 10°35'N, 85°43'W; 10 fms. over sand and shells; 25 February 1934; VELERO 257-34. It agrees exactly with the other two types in counts: D II, 22; A 21; vertebrae 8 + 23 = 31. Like the holotype, this paratype was also collected by Dr. Schmitt from an island while on one of the *Velero III* expeditions (Fraser, 1943a, 1943b).

LITERATURE CITED

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